

MODULE 4



LOGISTICS

4.1

**Maintenance
Introduction**

4.5

**Preventive
Maintenance**

4.2

**HW/SW
Data Flow**

4.6

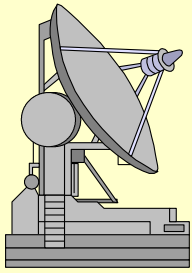
**Practical
Exercises**

4.3

**Fault Detection
& Isolation**

4.4

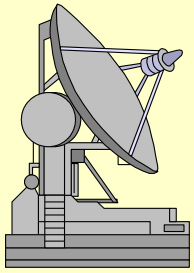
**Support
Documentation**



MODULE 4 OBJECTIVES



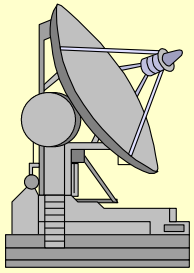
- Using the student materials, class notes, and system manuals, the student will understand the STT logistics support including maintenance concepts, data flow, inter-connectivity, technical manuals, Maintenance Data Collection (MDC) procedures, standard base supply procedures, and Preventive Maintenance Inspections (PMI's).



LESSON 4.1



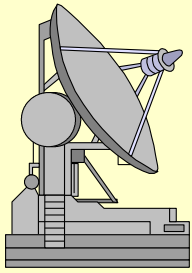
MAINTENANCE INTRODUCTION



LESSON 4.1 OVERVIEW



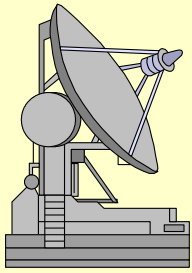
- This lesson will cover STT:
 - Maintenance Concept
 - Line Replacable Unit (LRU) List
 - Warranty
 - Technical Manuals



STT MAINTENANCE CONCEPT



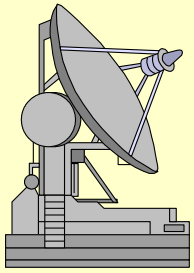
- There are two levels of maintenance
 - » Organizational level
 - » Depot level
- Organizational level maintenance is the responsibility of the “operator/maintainer”, to include:
 - » Reloading the system software
 - » Performing software upgrades
 - » Remove & Replace Line Replaceable Units (LRU's)
 - » Preventative Maintenance Inspection's (PMI's)
- Depot level maintenance is completed on all sub-components of equipment items listed on the LRU lists



LRU LIST PROCESSING EQUIPMENT GROUP



- DAS
- Workstation
 - Hard Disk Drive
- LCD Panel (L-STT) or 17" Monitor (Enhanced STT)
- Peripheral Bay (L-STT)
 - Hard Disk Drive
 - DAT Drive (Enhanced & L-STT)
 - CD-ROM Drive
- Keyboard
- Mouse

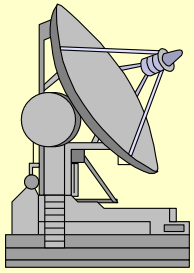


LRU LIST

RF/ANTENNA EQUIPMENT GROUP



- 2, 3 or 4.6 Ft Tracking antenna
 - Positioner
 - Controller
- WEFAX antenna
- APT antenna
- GPS antenna

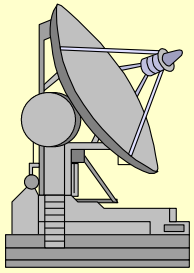


LRU LIST

AUXILIARY EQUIPMENT GROUP



- Printer
- PDA
- Power Inverter
- Signal Monitor
- Cables
- Cases

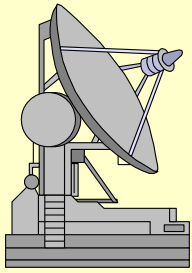


LRU LIST

COMSEC EQUIPMENT GROUP



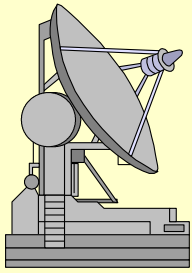
- AN/CYZ-10 DTD's
- KG-144
- MYK-7A



STT WARRANTY



- Warranty is 1 year, starting when the Air Force government representative signs for it. Normally, this is the date it was shipped.
- Verify this date with the WSSC Help Desk via the Item Manager.

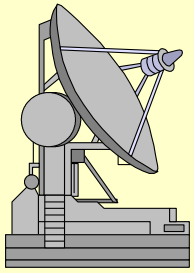


STT TECHNICAL MANUALS



■ Reference materials include:

- Computer System Operations Manual (T.O. 31M3-2TMQ43-41)
- General Systems Manual (T.O. 31M3-2TMQ43-1)
- Fault Isolation Manual (T.O. 31M3-2TMQ43-11)
- Illustrated Parts Breakdown (T.O. 31M3-2TMQ43-4)
- L-STT Systems Manual (T.O. 31M3-2TMQ43-431)
 - »L-STT Only; Contains the GSM, FIM and IPB for the L-STT
- Inspection and Maintenance Requirements Manual (T.O. 31M3-2TMQ43-05)
 - »Inspection and Maintenance Work Cards (T.O. 31M3-2TMQ43-05)
- Work Unit Code Manual (T.O. 31M3-2TMQ43-06)

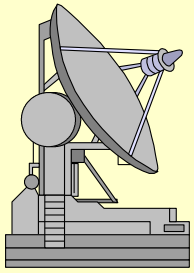


LESSON 4.1 REVIEW



■ This lesson topic has covered STT:

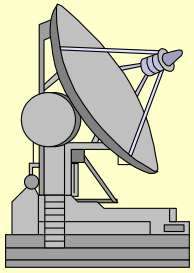
- Maintenance Concept
- Warranty
- LRU List
- Technical Manuals



LESSON 4.2



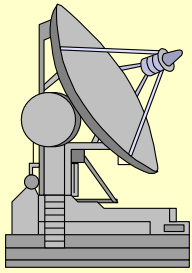
HARDWARE/SOFTWARE DATA FLOW



LESSON 4.2 OVERVIEW



- This lesson will cover STT:
 - Equipment Review
 - System Block Diagram
 - Inter-connectivity



STT EQUIPMENT GROUPS



■ The four major equipment groups:

– RF/Antenna Equipment Group

Includes: GPS Antenna, APT Antenna, WEFAX Antenna, and 2, **3 and 4.6 Ft** Tracking Antenna

– COMSEC Equipment Group

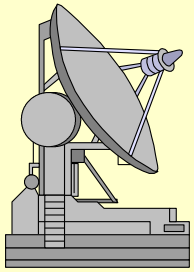
Includes: DTDs, MYK-7A and KG-144

– Processing Equipment Group

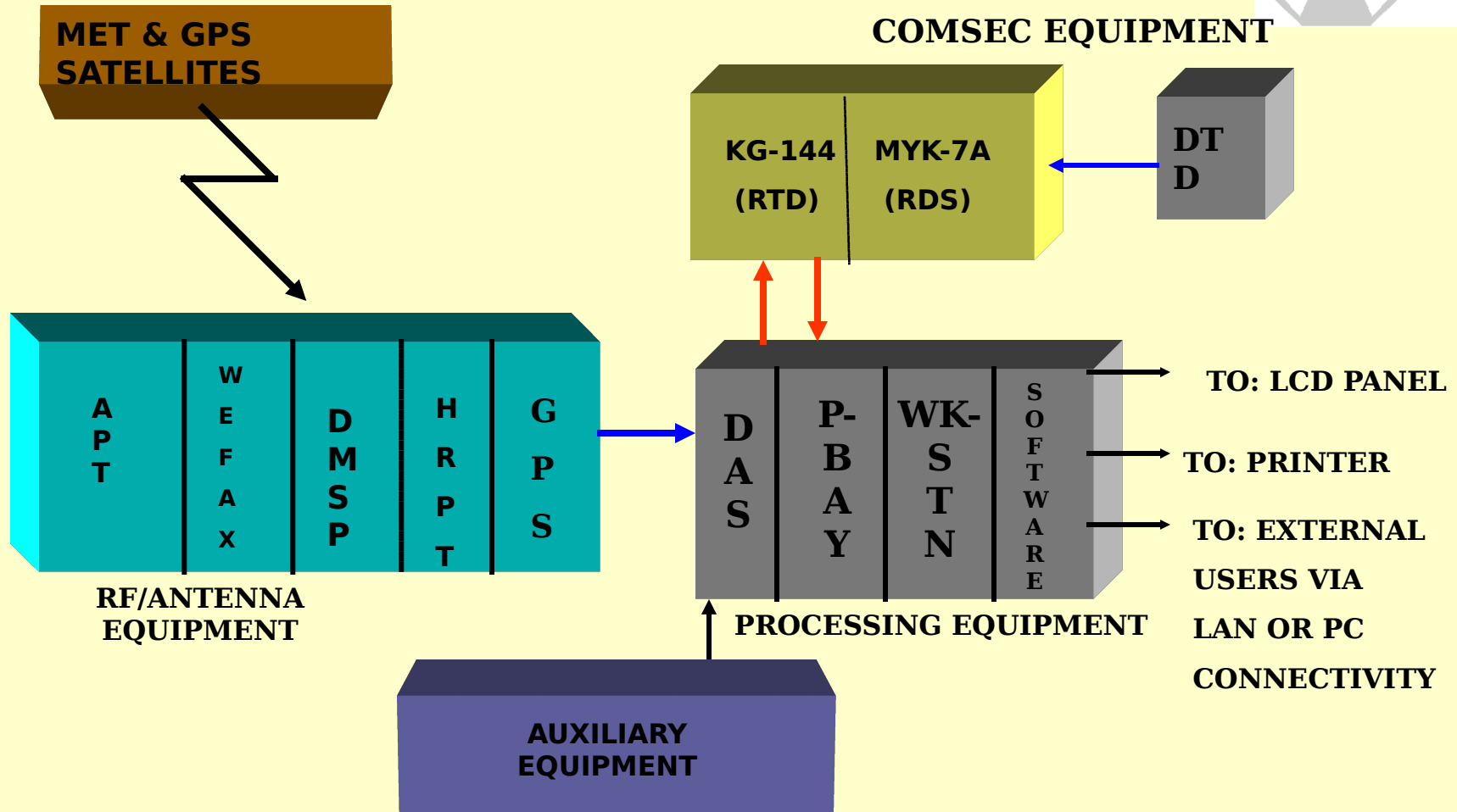
Includes: DAS, Workstation, **Peripheral Bay**, Mouse, **LCD Panel**, External Keyboard, **CD-Rom Drive, Monitor** and DAT Drive

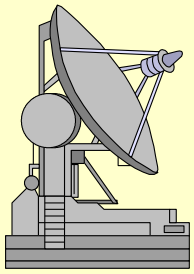
– Auxiliary Equipment Group

Includes: Printer, PDA, Power Inverter, Signal Monitor, Cables and Transit Cases

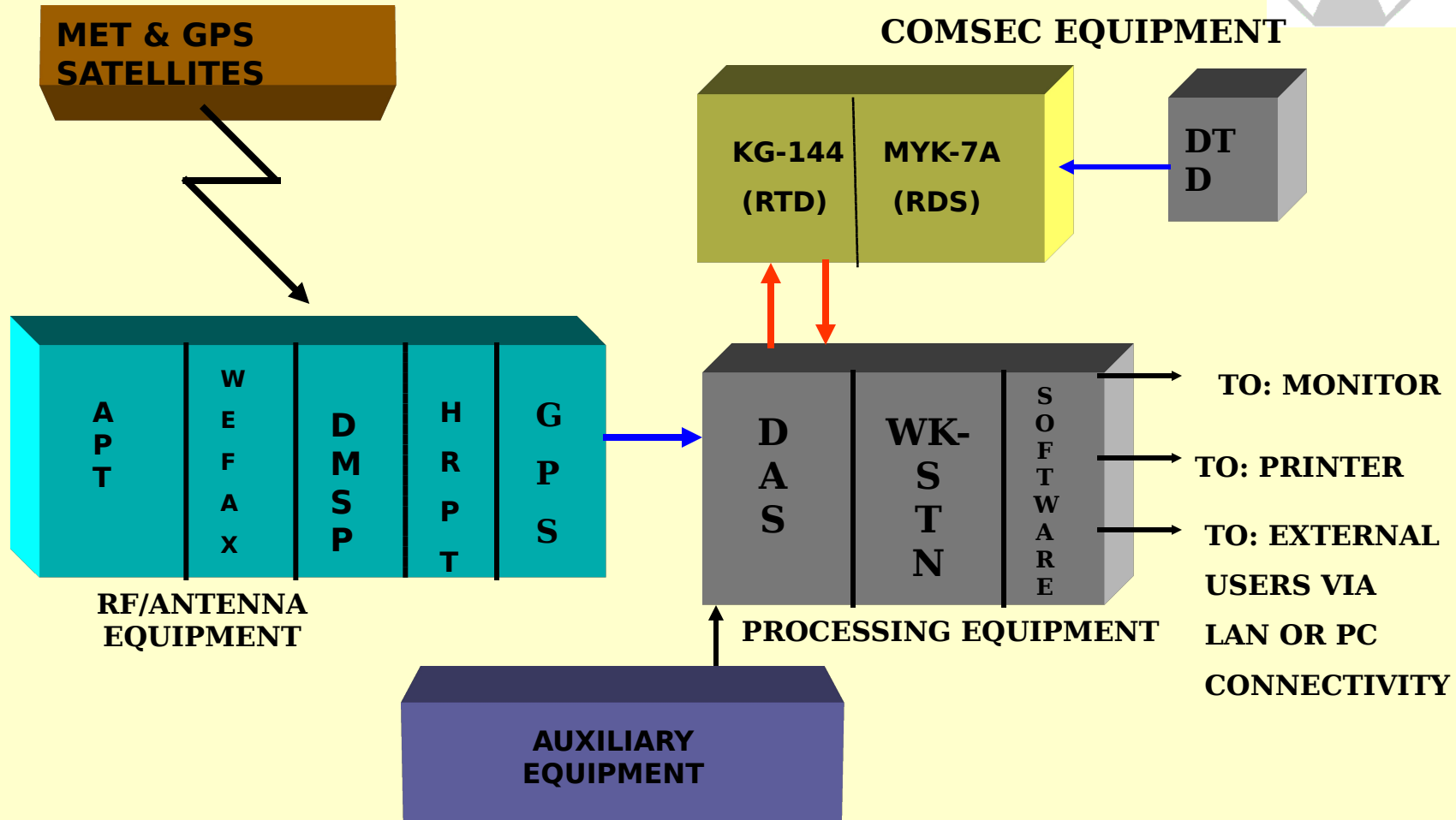


L-STT SYSTEM BLOCK DIAGRAM

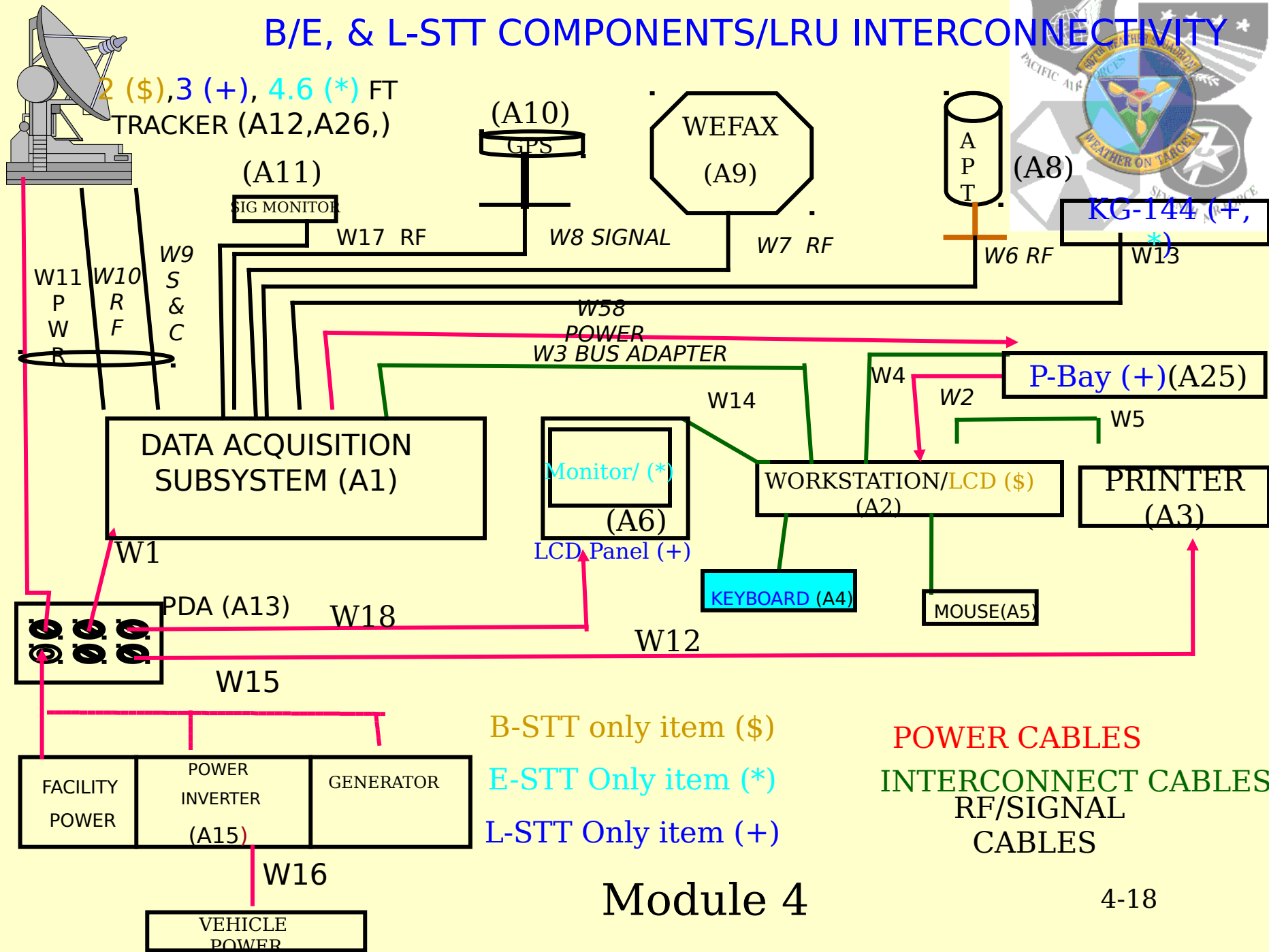


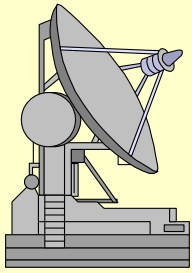


STT SYSTEM BLOCK DIAGRAM



B/E, & L-STT COMPONENTS/LRU INTERCONNECTIVITY

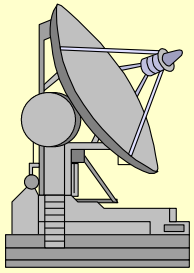




LESSON 4.2 REVIEW



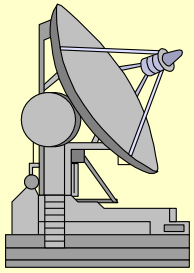
- This lesson covered STT:
 - Equipment Review
 - System Block Diagram
 - Inter-connectivity



LESSON TOPIC 4.3



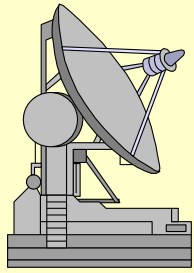
FAULT DETECTION & ISOLATION



LESSON 4.3 OVERVIEW



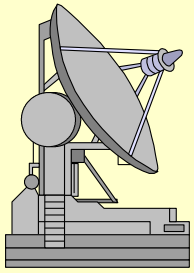
- This lesson will cover STT:
 - Fault isolation conventions
 - Hardware Status Check
 - RF/Antenna equipment group faults
 - COMSEC equipment group faults
 - Processing equipment group faults
 - Auxiliary equipment group faults



FAULT ISOLATION CONVENTIONS



- Fault Isolation diagrams provide a logical flow for system checkout and are used to troubleshoot and isolate faults.
- Some conditions indicating a fault may not be associated with the STT components. Example: No ingest for a particular signal. This may be due to the satellite not operating.
 - The logic-tree is graphic in nature: symbols are used to direct maintenance actions.
 - Decision Diamond
 - Action Box
 - Off-page and On-page Connectors
 - Termination Step

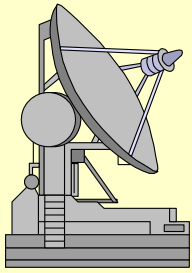


HARDWARE STATUS CHECK



■ Built-In-Test / Built-In-Test Equipment

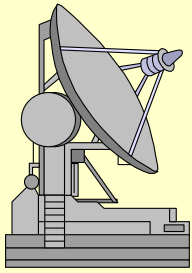
- Hardware Status tests are executed from either the Quicklook or System Manager windows.
- GPS Functionality is accessible through the System Manager window.
- Individual hardware elements may be tested.
- All hardware elements can be tested simultaneously.
- DMSP and HRPT share a Serial I/O card, Primary Decom and Demod/Bit Sync/Decoder. Testing those sets of devices may interfere with other on-going operations.



FAULT DETECTION & ISOLATION



- The following slides will cover common faults with:
 - RF/Antenna Equipment Group
 - Processing Equipment Group
 - COMSEC Equipment Group
 - Auxiliary Equipment Group

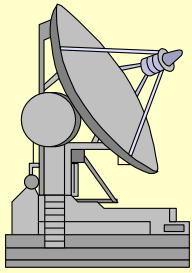


COMMON RF/ANTENNA GROUP RELATED FAULTS



- Faults
 - No GPS Fix
 - Missing Passes

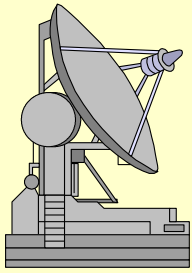
- Typical Actions
 - Check Cable Connections
 - Check STT Satellite Schedule
 - Verify Satellite Functioning (METSAT Status Report)
 - Check Ephemeris Data
 - Check COMSEC (DMSP)
 - Check Antenna Alignment (WEFAX/DMSP)



COMMON PROCESSOR GROUP RELATED FAULTS



- Faults
 - System does not boot (HD failure)
 - System does not respond to commands
- Actions
 - Always verify hardware vs software
 - » Log-out and log back in
 - » Shutdown and reboot system
 - » Reseat both HD's
 - Reload system software

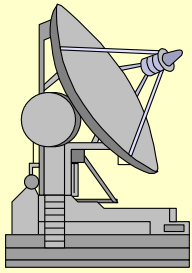


COMMON COMSEC GROUP RELATED FAULTS



- Fault
 - Cannot Key DTD
 - Cannot Transfer DTD key to MYK-7/KG-144

- ACTIONS
 - Check KOI-18/DTD Batteries
 - Check CIK
 - Check Fill Cable Connections
 - Verify Key Sequence (KEK/TEK)

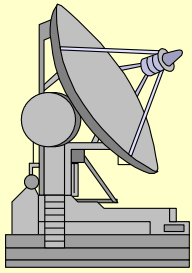


COMMON AUXILIARY GROUP RELATED FAULTS



- Failure
 - System Shut Down
 - Printer Does Not Print

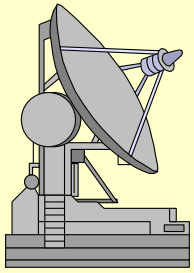
- Actions
 - Check power source
 - Check PDA
 - Check Power Cables
 - Reload software to restore printer



LESSON 4.3 REVIEW



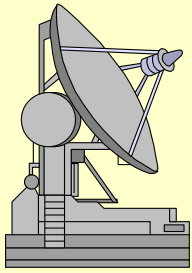
- This lesson covered STT:
 - Fault isolation conventions
 - Hardware Status Check
 - RF/Antenna equipment group faults
 - COMSEC equipment group faults
 - Processing equipment group faults
 - Auxiliary equipment group faults



LESSON 4.4



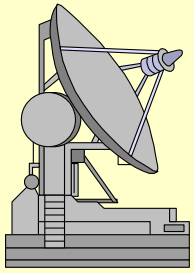
SUPPORT DOCUMENTATION



LESSON 4.4 OVERVIEW



- Use and Purpose of AFTO Form 95
- Electronic Set Inventory Checklist
- Maintenance Data Documentation
- AFTO Form 349
- Use of Illustrated Parts Breakdown
- Supply Requisition Procedures
 - AF Form 2005
- Quality Deficiency Reports
- Supply Turn-In Procedures
 - AFTO Form 350
 - DD Form 1577-2 or DD Form 1577-3

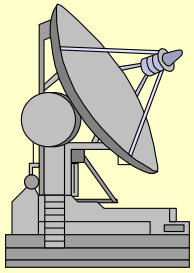


AFTO Form 95 (Historical Data)



- The AFTO Form 95 is used to document and maintain a permanent history of significant maintenance actions accomplished on Communications-Electronics equipment, i.e. STT.
- It's purpose is to provide the maintenance organization with a life profile of the item, and to portray those conditions which could have a bearing on future maintenance of the equipment.
- CAMS Screen 126 can be used in place of the AFTO Form 95. Data is recorded the same in CAMS as it is on the form.

SIGNIFICANT HISTORICAL DATA			PAGE 1 OF 2 PAGE
1. MISSION DESIGN SERIES/TYPE, MODEL AND SERIES AN/TMQ-43 SMALL TACTICAL TERMINAL		2. MANUFACTURER HARRIS CORP	3. SERIAL NUMBER BASIC: XX ENH: XX
4. ACCEPTANCE DATE 1 May 1998			
DATE A	REMARKS B	ORGANIZATION C	
1 May 98	<p>Items in this block should include:</p> <ul style="list-style-type: none"> - All equipment serial numbers as initially installed. - Any Depot level or WSSC maintenance performed. - The installation or removal of any end item (DAS, Workstation, etc.). Always include serial numbers for R/R actions. - Any damage due to mishandling or major corrosion; include the extent of damage or corrosion and what has been done to solve the problem. - Any chronic maintenance problems which cause extended system downtime. - Time Compliance Technical Order (TCTO) actions. You must record the date the TCTO was received, and the date it was accomplished. - Finally, you must perform and document an annual review of the Historical Data to ensure it is accurate and current. 	WSSC	



Electronic Set Inventory Checklist



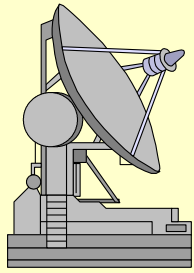
- AFTO FORM 47- series checklists
 - Serves as a convenient instrument for accounting of component items
 - Will be maintained as part of the equipment historical records
- AFTO FORM 470
 - Cover Page. Lists equipment type, model, national stock number
- AFTO FORM 471
 - Establishes formal accountability for all items of a C-E ground set
- AFTO FORM 472
 - Signature indicates that an inventory was accomplished, with any shortages listed on AFTO Form 471

ELECTRONIC SET INVENTORY CHECKLIST CONFIGURATION DATA

1
PAGE OF PAGE

2. NATIONAL STOCK NUMBER 6660-01-413-6050	3. NOMENCLATURE AN/TMQ-43 Weather Terminal Set	4. SERIAL NUMBER XXXXXX						
NATIONAL STOCK NUMBER A	NOMENCLATURE B	TYPE NUMBER OR PART NUMBER C	UNIT D	QNTY RCVD E	QNTY SHIPPED F	BOX NO G	QNTY RCVD H	ITEM NO I
5820-01-411-5591	Data Acquisition Subsystem	3007632-101	XD2	01				01

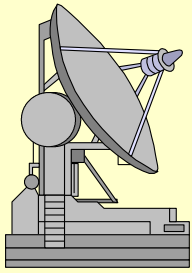
2. NATIONAL STOCK NUMBER 6660-01-413-6050		3. NOMENCLATURE AN/TMQ-43 Weather Terminal Set		4. SERIAL NUMBER XXXXXX	
5. ATTACHED INVENTORY CHECK LIST COMPILED FROM					
6. DISTRIBUTION (Check One) <input type="checkbox"/> COPY #1 SMALC/MM OR ORGN FILE <input type="checkbox"/> COPY #2 SMALC/MM OR AS DIRECTED <input type="checkbox"/> COPY #3 NUMBER 1 CONTAINER					
SECTION I MAINTENANCE (TRC) OR ORGANIZATIONAL TURN IN INFORMATION					
7. ORGANIZATION		8. DOCUMENT NUMBER		9. CONDITION	
10. SPECIAL INSTRUCTIONS					
11. REMARKS Section I is filled out by th maintenance activity or relinquishing activity prior to shipment					
12. (TRC) CHIEF MAINT OR ORGN CMR		13. DATE	14. (TRC) QTY CON SPEC/ORGN MAINT OFF	15. DATE	16. SUP QTY CON INSP/NOIC
17. DATE					
SECTION II PACKAGING AND PACKING INFORMATION					
18. PACKED IN ACCORDANCE WITH					
19. SPECIAL INSTRUCTIONS					
20. REMARKS Section II is filled out by packaging or packing activity					
21. PACKAGING FOREMAN		22. DATE	23. PACKER		24. DATE
SECTION III RECEIVING INFORMATION					
25. ORGANIZATION		26. DOCUMENT NUMBER		27. CONDITION	
28. SPECIAL INSTRUCTIONS					
29. REMARKS Section III is filled out by the receiving activity after conducting an inventory of the equipment					
30. RECEIVED BY		31. DATE	32. SUPPLY QTY CONTROL INSP OR NOIC		33. DATE



Maintenance Data Documentation



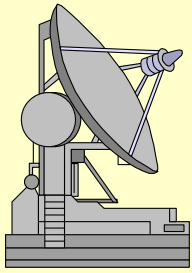
- MDD is a mandatory process governed by AFI 21-116 and T.O. 00-20-2.
- The objective of MDD is to collect and store maintenance data. Program managers use this data for such things as determining system effectiveness, reliability and spares availability. More importantly, it provides a database for future modifications and upgrades.
- MDD is accomplished for any maintenance action taken on the system (PMI's, repairs, etc.)
- Core Automated Maintenance System (CAMS) is the Air Force Standard for documenting equipment outages, scheduled maintenance, document maintenance actions, etc.



MAINTENANCE DATA DOCUMENTATION (MDD)



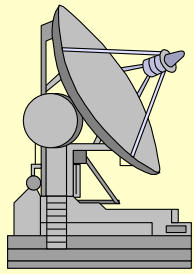
- AFTO Form 349
 - Purpose
 - Maintenance Job Example
 - PMI Example



AFTO FORM 349 PURPOSES



- Identifies reliability and maintainability problems
- Establishes priorities for product improvements /engineering changes
- Validates spares requirements
- System analysis results are only as accurate as data inputted. **If you do not take the effort to complete MDD, the above actions will not happen.**



INSTRUCTOR LED SCENERIO



- On 20 Jan 98, you deployed to field. You set up your STT. At 08:30 you missed a DMSP RTD pass. You troubleshot and at 09:30 you isolated the problem to the DAS. From 09:45 until 11:30 hrs, you ordered a new DAS from Base Supply and removed failed DAS for supply turn-in. On 21 Jan 98 at 14:00 you received a new DAS. You installed the DAS, and at 16:30 you received a DMSP pass and closed out job.
- RELEVANT MDD INFORMATION
 - » **Job Control Number:** 80200001
 - » **Office Symbol:** YWEAT
 - » **STT Equipment ID:** RF102
 - » **STT SRD:** FAE
 - » **Man-Number:** 54321
- RELEVANT SUPPLY INFORMATION
 - » **Supply Account:** 295WX
 - » **Delivery Destination:** A88
 - » **PRI/UJC:** AE 03

MAINTENANCE DATA COLLECTION RECORD

OMB NO-
0704-0188

1. JOB CONTROL NO. 80200001	2. WORKCENTER YWEAT	3. I.D. NO./SERIAL NO. RF102	4. MDS	5. SRD FAE	6. TIME	7. PRI	8. SORTIE NO.	9. LOCATION
---------------------------------------	-------------------------------	--	--------	----------------------	---------	--------	---------------	-------------

10. ENG. TIME	11. ENGINE I.D.	12. INST ENG TIME	13. INST. ENG. I.D.	14.	15.	16.	17. TIME SPC BKG	18. JOB STD.
---------------	-----------------	-------------------	---------------------	-----	-----	-----	------------------	--------------

19. FSC 5820	20. PART/LOT NUMBER 3007632-101	21. SER. NO./OPTR. TIME XXXXXX	22. TAG NO. XXXXXX	23. INST. ITEM PART NO. 3007632-101	24. SERIAL NUMBER XXXXXX	25. OPER. TIME
------------------------	---	--	------------------------------	---	------------------------------------	----------------

ACT. LINE	A TYPE MAINT	B COMP POS	C WORK UNIT CODE	D ACTION TAKEN	E WHEN DISC	F HOW MAL	G UNITS	H START HOUR	I DAY	J STOP HOUR	K CREW SIZE	L CAT LAB	M CMD ACT ID	N SCH CODE	O AFSC/EMPLOYEE NUMBER
1	B		AA000	Y	C	255	01	0830	020	0930	2	1			54321
2	B		AAE00	P	C	255	01	0945	020	1130	2	1			54321
3	B		AAE00	Q	C	799	01	1400	021	1630	2	1			54321
4															
5															

26. DISCREPANCY

NOT RECEIVING DMSP RDS DATA

27. CORRECTIVE ACTION

1. TROUBLESHOT. FOUND DAS BAD
2. REMOVED DAS
3. INSTALLED DAS. SYSTEM OPERATIONAL

28. RECORDS ACTION

MAINTENANCE DATA COLLECTION RECORD

OMB NO-
0704-0188

1. WORK CONTROL NO. 9030A012	2. WORKCENTER YWEAT	3. I.D. NO./SERIAL NO. RF102	4. MDS	5. SRD FAE	6. TIME	7. PRI	8. SORTIE NO.	9. LOCATION
--	-------------------------------	--	--------	----------------------	---------	--------	---------------	-------------

10. ENG. TIME	11. ENGINE I.D.	12. INST ENG TIME	13. INST. ENG. I.D.	14.	15.	16.	17. TIME SPC REQ	18. JOB STD.
---------------	-----------------	-------------------	---------------------	-----	-----	-----	------------------	--------------

19. FSC	20. PART/LOT NUMBER	21. SER. NO./OPER. TIME	22. TAG NO.	23. INST. ITEM PART NO.	24. SERIAL NUMBER	25. OPER. TIME
---------	---------------------	-------------------------	-------------	-------------------------	-------------------	----------------

ACT. LINE	A TYPE MAINT	B COMP POS	C WORK UNIT CODE	D ACTION TAKEN	E WHEN DISC	F HOW MAL	G UNITS	H START HOUR	I DAY	J STOP HOUR	K CREW SIZE	L CAT LAB	M CMD ACT ID	N SCH CODE	O AFSC/EMPLOYEE NUMBER
1	F		03156				01	0900	030	0920	2	1			04764
2															
3															
4															
5															

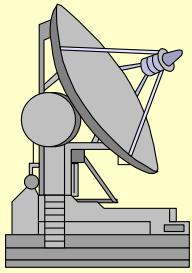
26. DISCREPANCY

56 DAY PMI

27. CORRECTIVE ACTION

COMPLETED PMI

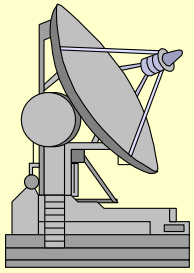
28. RECORDS ACTION



STUDENT SELF-PACED SCENARIO



- On 24 Jan 98, you are at the weather station, where your STT is set-up in garrison. At 08:00, you check the STT and find a red indicator on your Omni icon. You troubleshoot and at 09:00 isolated the problem to the APT antenna. From 09:15 until 11:00, you ordered a new antenna from Base Supply and removed the failed antenna for turn-in to base supply. On 26 Jan 98 at 08:00 you received a new antenna. You installed the antenna and at 10:30 you received an APT image and closed out the job.
- RELEVANT MDD INFORMATION
 - » **Job Control Number:** 80240001
 - » **Office Symbol:** YWEAT
 - » **STT Equipment ID:** RF102
 - » **STT SRD:** FAE
 - » **Man-Number:** 54321
- RELEVANT SUPPLY INFORMATION
 - » **Supply Account:** 295WX
 - » **Delivery Destination:** A88
 - » **PRI/UJC:** AE 03
 - » **Part Number:** 3008970-101
 - » **National Stock Number:** 5985-01-411-1280



PRACTICE AFTO 349



- Complete a practice AFTO 349 using student self paced scenario on slide 4-44
- Hold, Answers on next Screen

MAINTENANCE DATA COLLECTION RECORD

OMB NO.
0704-0188

1. JOB CONTROL NO. 80240001		2. WORKCENTER YWEAT		3. I.D. NO./SERIAL NO. RF102		4. MDS		5. SRD FAE		6. TIME		7. PRI		8. SORTIE NO.		9. LOCATION	
10. ENG. TIME		11. ENGINE I.D.		12. INST ENG TIME		13. INST. ENG. I.D.		14.		15.		16.		17. TIME APC REQ		18. JOB STD.	
19. FSC 5985		20. DISCLOS NUMBER 3008970-101				21. REF NO. JCRS TIME XXXXX		22. TAP NO XXXX		23. INST ITEM PART NO 3008970-101				24. SERIAL NUMBER XXXXXX		25. OPER. TIME	

ACT. LINE	A	B	C	D	E	F	G	H	I		J	K	L	M	N
	TYPE MAINT	COMP POS	WORK UNIT CODE	ACTION TAKEN	WHEN DISC	HOW MAL	UNITS	START HOUR	DAY	STOP HOUR	CREW SIZE	CAT LAB	CMD ACT ID	SCH CODE	AFSC/EMPLOYEE NUMBER
1	B		AA000	Y	C	255	01	0800	024	0900	2	1			56434
2	B		AAC00	P	C	255	01	0915	024	1100	2	1			56434
3	B		AAC00	Q	C	799	01	0800	026	1030	2	1			56434
4															
5															

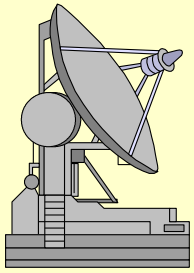
26. DISCREPANCY

NOT RECEIVING APT Data

27. CORRECTIVE ACTION

1. TROUBLESHOT. FOUND APT ANT BAD
2. REMOVED APT ANT
3. INSTALLED ANT. SYSTEM OPERATIONAL

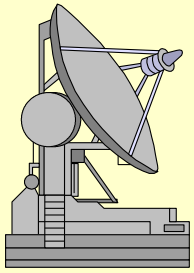
28. RECORDS ACTION



USE OF ILLUSTRATED PARTS BREAKDOWN (IPB)



- Locate LRUs in IPB
- Identify sources of repair in IPB
- Identify Part Number



SUPPLY PROCEDURES



- Supply Requisition Procedures

- » AF Form 2005 Example

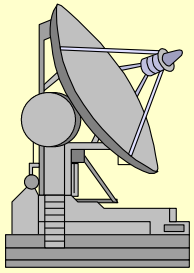
- Supply Turn-In Procedures

- AFTO Form 350 Example

- DD Form 1577-2 or DD Form 1577-3 Example



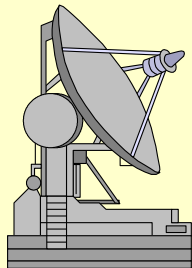
<table border="1"> <tr> <td colspan="3">TRC</td> <td colspan="3">OR</td> <td colspan="3">OR</td> </tr> <tr> <td>1</td><td>2</td><td>3</td> <td>4</td><td>5</td><td>6</td> <td>7</td><td colspan="3"></td> </tr> </table>										TRC			OR			OR			1	2	3	4	5	6	7				A. INSPECTOR, NAME, DATE (TIN) SSGT JOHN DOE 884-8143										B. INSPECTOR, NAME, DATE (TIN)																																																												
TRC			OR			OR																																																																																													
1	2	3	4	5	6	7																																																																																													
STOCK NUMBER NSC 5 8 2 0 1 4 1 1 5 5 9 1										UNIT OF ISSUE EA										QUANTITY 0001										C.										DOCUMENT NUMBER ACT X 295										ORG WX										SHOP 8020										DATE 0014										SER. NO. R										CORR									
PART NUMBER 3007632-101										D. PART NUMBER/NGF CODE OR NAME/REMARKS										E. T.O. REFERENCE/TECHNICAL PUBLICATION OR END-ITEM APPLICATION/NEXT HIGHER ASSEMBLY T.O. 31M3-2TMQ43-4 FIG 1, INDEX 3										F. T.O. PSC AND/OR ERRC																																																																					
WORK ORDER SHIP TO 03										PROJECT AE										UJC 00RF012FAEAA										MARK FOR DOCUMENT NUMBER 00RF012FAEAA										POST/POST																																																											
G. TIME & DATE OF DELIVERY										H. DELIVERY TIME										I.										J. NOMENCLATURE DATA AQUISION SUBSYSTEM																																																																					



2005 PRACTICE EXERCISE



- Complete practice exercise AF 2005 using student self paced scenario on slide 4-44
- Hold, answers on next screen

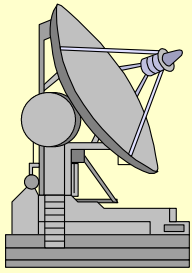


AF FORM 2005 STUDENT SELF PACED



TRC		ON DESK		IN		A. INSPECTOR, NAME, DATE (TIN)												B. INSPECTOR, NAME-Stamp, DATE (TIN)																																	
1	2	3	4	5	6	7	SSGT JOHN DOE 884-8143																																												
ISU A88																																																			
STOCK NUMBER		UNIT OF		QUANTITY		C.												DOCUMENT NUMBER												END																					
NSC		MIIN		ADDN		ISSUE		QUANTITY														ACT		ORG		SHOP		DATE		SER. NO.		COMB																			
8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29													30	31	32	33	34	35	36	37	38	39	40	41	42	43	44			
5985		01-411-1280				EA		0001														X		295		WX		8024		0001		R																			
PART NUMBER														E. T.O. REFERENCE/TECHNICAL PUBLICATION OR END-ITEM APPLICATION/NEST HIGHER ASSEMBLY																																					
D. PART NUMBER/MGR CODE OR NAME/REMARKS		300-8970-101												T.O. 31M3-2TMQ43-4 FIG 1, INDEX 13																																					
WORK ORDER		TEXT/ORD. NO.		NO.		PROJECT		PRI		MATERIAL DATE		UIC		NAME FOR												F. T.O. PRC AND/OR ERRC																									
SHIP TO		51		51		54		55		56		57		58		59		60		61		62		63		64		DOCUMENT NUMBER												POST/POST											
45		46		47		48		49		50		51		52		53				03				AE		00RF012FAEAA																									
G. TIME & DATE OF DELIVERY		H. DELIVERY TIME														J. NOMENCLATURE																																			
																APT Antenna																																			

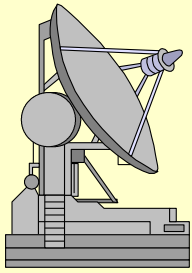
AF Form 2005, JUN 86 PREVIOUS EDITION WILL BE USED



DEFICIENCY REPORTS



- There are two type of deficiency reports
- Quality Deficiency Reports
 - ⇒ Purpose: Identify and assist in trend analysis of warranty components and/or items received from Supply System
 - ▢ Hardware/Software improvements
- Material Deficiency Report
 - ▢ Purpose: Identify and assist in trend analysis of components out of warranty and/or items received from Supply System
- The following form is applicable to both QDRs and MDRs

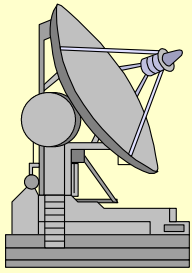


DEFICIENCY REPORTS (1 of 5)



Material Deficiency Report Format Example

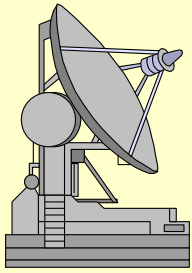
1. **From:** *Your Organization* **31 CCS/CYWW**
2. **TO:** *Your POC for DRs that have access to the D021 Data Base*
*Alias for your POC: Screening Point Office, Quality Assurance, Quality Control (Base Level),
Certifying Official for DRs*
- Info:**
- Subject:** *Category II QDR* **X** *Cat I is for situations that could only lead to loss of life*
3. **REPORT CONTROL NUMBER (RCN):** *Assigned by Screening Point*
4. **DATE DEFICIENCY DISCOVERED:** **21 Jan 98**
5. **NATIONAL STOCK NUMBER:** **5820 - 01-411-5591**
6. **NOMENCLATURE:** *Enter the name of the broken LRU* **Data Acquisition Subsystem**
7.
 - a. **MANUFACTURER:** **Harris Corp.**
 - b. **MANUFACTURERS CODE:** **64755** *AF assigned number for the STT*
 - c. **SOURCE OF REPAIR OVERHAUL:** **N/A**



DEFICIENCY REPORTS (2 of 5)



8. MANUFACTURER'S PART NUMBER: *Listed in TO 31M3-2TMQ43-04 IPB* **3007632-101**
9. SERIAL, LOT, BATCH NUMBER: N/A
10. a. CONTRACT NUMBER: F04701-94-C00019 *AF contract number for the STT*
- b. PURCHASE ORDER NUMBER: N/A
- c. REQUISITION NUMBER: N/A
- d. GBL NUMBER: N/A
11. NEW/REPAIRED/OVERHAULED: **New**
12. DATE MANUFACTURED, REPAIRED OR OVERHAULED: *System Delivery Date* **1 Dec 97**
13. OPERATING TIME AT FAILURE: *Date of failure minus System Delivery Date* **51 Days**
14. GOVERNMENT FURNISHED MATERIAL: N/A
15. QUANTITY:
- a. RECEIVED: 01
 - b. INSPECTED: 01
 - c. DEFICIENT: 01
 - d. IN STOCK: 00



DEFICIENCY REPORTS (3 of 5)



16. **DEFICIENT ITEM WORKS ON OR WITH:**

a. **END ITEM:** AN/TMQ-43 Small Tactical Terminal (STT)

b. **NEXT HIGHER ASSEMBLY:** *Listed in TO 31MB-21MQ43-06* AN/TMQ-43

17. **DOLLAR VALUE:** *Found in Fed Log Database or call STT Depot*

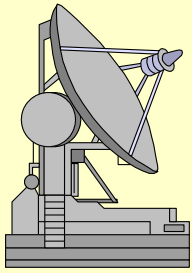
18. **ESTIMATED CORRECTION COST:** Unknown

19. a. **ITEM UNDER WARRANTY:** Yes

b. **EXPIRATION DATE:** *One year from delivery date* 1 Dec 98

20. **WORK UNIT CODE:** *Listed in TO 31MB-21MQ43-06* AAEOO

21. **EXHIBIT DISPOSITION INFORMATION:** Shipped IAW Warranty



DEFICIENCY REPORTS (4 of 5)

22. DETAILS:

a. CIRCUMSTANCES PRIOR TO DIFFICULTY: **Initial Set-up upon Deployment**

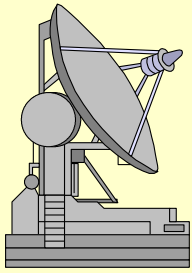
b. DESCRIPTION AND CAUSE OF DIFFICULTY: **No RDS Reception**

c. ACTION TAKEN AND/OR RECOMMENDED:

Troubleshoot, Verified Problem with WSSC

d. TECHNICAL INFORMATION: **None**

e. TECHNICAL DATA DEFICIENCY: **Not Applicable**



DEFICIENCY REPORTS (5 of 5)

f. SUPPORT DATA MAILED: NONE

g. SYSTEM PROGRAM MANAGER OR ITEM MANAGER ALC CODE: FH

h. STANDARD REPORTING DESIGNATOR (SRD): **F**AE Same for all SITs

i. COMMAND CODE: PACAF: OR, AMC: 1L, ACC: 1C, USAFE: 0D, AETC: 0J,

j. OTHER PERTINENT DATA:

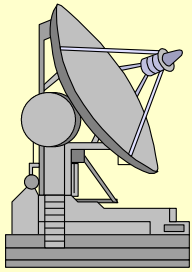
1. DR EXHIBIT HOLDING ACTIVITY: _____

2. PERTINENT DATA: _____

3. PHOTOGRAPHIC SUPPLIES: _____

k. COGNIZANT OFFICIAL: Screening Point official, Name, Number, etc. _____

l. CERTIFYING OFFICIAL: Name, Number, etc. _____



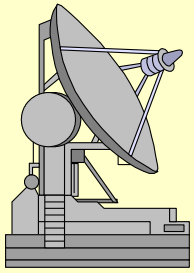
5820-01-411-5591 3007632-101 DATA ACQUISITION SUBSYSTEM EA		SUSPENDED TAG - MATERIEL	
		NEXT INSPECTION DUE	CONDITION CODE Q
<small>WARNING: Unauthorized persons removing, defacing, or destroying this tag may be subject to a fine of not more than \$1,000 or imprisonment for not more than one year or both. (18 USC 1361)</small>		INSPECTION ACTIVITY 31 CCS/CYWW	
<small>SERIAL NO. / LOT NO.</small> <small>UNIT OF ISSUE</small>		REASON OR AUTHORITY Applicable NRTS code	
CONTRACT OR PURCHASE ORDER NO.	QUANTITY 0 1	From WUC Manual	
REMARKS NO RDS RECEIVE		INSPECTOR'S NAME OR STAMP AND DATE SSgt Doe, 21 Jan 98	

DD FORM 1575, 1 OCT. 66

Also

Also, in addition to the QDR paperwork we just accomplished, we must fill out a DD Form 1575 (Brown Tag) and attach it to the part you are turning in.

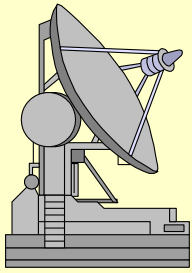
NOTE: Condition Code is Q for QDR.



DR PRACTICE



- Complete practice DR & DD 1575 using student self paced scenario on slide 4-44
- Hold, answers on next screen

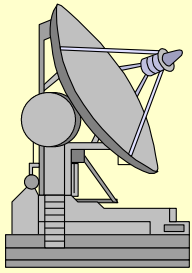


DEFICIENCY REPORTS (1 of 5)



Material Deficiency Report Format Example

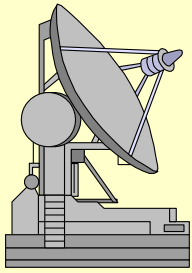
1. **From:** *Your Organization*
2. **TO:** *Your POC for DRs that have access to the D021 Data Base*
*Alias for your POC: Screening Point Office, Quality Assurance, Quality Control (Base Level),
Certifying Official for DRs*
- Info:**
 - Subject:** *Category II QDR_X Cat I is for situations that could only lead to loss of life*
 3. **REPORT CONTROL NUMBER (RCN):** *Assigned by Screening Point*
 4. **DATE DEFICIENCY DISCOVERED:**
 5. **NATIONAL STOCK NUMBER:** *5985-01-411-1280*
 6. **NOMENCLATURE:** *Enter the name of the broken LRU* *APT Antenna*
 7.
 - a. **MANUFACTURER:** *Harris Corp.*
 - b. **MANUFACTURERS CODE:** *64755 AF assigned number for the STT*
 - c. **SOURCE OF REPAIR OVERHAUL:** *N/A*



DEFICIENCY REPORTS (2 of 5)



8. MANUFACTURER'S PART NUMBER: *Listed in TO 31M3-2TMQ43-04 IPB* 3007632-101
9. SERIAL, LOT, BATCH NUMBER: N/A
10. a. CONTRACT NUMBER: F04701-94-C00019 *AF contract number for the STT*
- b. PURCHASE ORDER NUMBER: N/A
- c. REQUISITION NUMBER: N/A
- d. GBL NUMBER: N/A
11. NEW/REPAIRED/OVERHAULED: New
12. DATE MANUFACTURED, REPAIRED OR OVERHAULED: *System Delivery Date* 01 Jan 98
13. OPERATING TIME AT FAILURE: *Date of failure minus System Delivery Date* 23 Days
14. GOVERNMENT FURNISHED MATERIAL: N/A
15. QUANTITY:
- a. RECEIVED: 01
 - b. INSPECTED: 01
 - c. DEFICIENT: 01
 - d. IN STOCK: 00



DEFICIENCY REPORTS (3 of 5)



16. **DEFICIENT ITEM WORKS ON OR WITH:**

a. **END ITEM:** AN/TMQ-43 Small Tactical Terminal (STT)

AN/TMQ-43

b. **NEXT HIGHER ASSEMBLY:** *Listed in TO 31MB-21MQ43-06*

17. **DOLLAR VALUE:** *Found in Fed Log Database or call STT Depot*

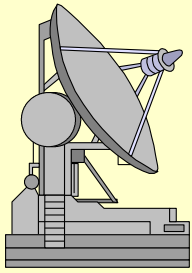
18. **ESTIMATED CORRECTION COST:** Unknown

19. a. **ITEM UNDER WARRANTY:** Yes

b. **EXPIRATION DATE:** *One year from delivery date* 1 Jan 99

20. **WORK UNIT CODE:** *Listed in TO 31MB-21MQ43-06* AAC00

21. **EXHIBIT DISPOSITION INFORMATION:** Shipped IAW Warranty

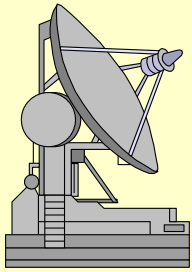


DEFICIENCY REPORTS (4 of 5)



22 DETAILS:

- a. CIRCUMSTANCES PRIOR TO DIFFICULTY: Operational
- b. DESCRIPTION AND CAUSE OF DIFFICULTY: No APT RCV
- c. ACTION TAKEN AND/OR RECOMMENDED: Trouble shot, Verified W/
WSSC West, NRTS 1
- d. TECHNICAL INFORMATION: None
- e. TECHNICAL DATA DEFICIENCY: N/A



DEFICIENCY REPORTS (5 of 5)

f. SUPPORT DATA MAILED: NONE

g. SYSTEM PROGRAM MANAGER OR ITEM MANAGER ALC CODE: FH

h. STANDARD REPORTING DESIGNATOR (SRD): **FAE** Same for all SITs

i. COMMAND CODE: PACAF: OR, AMC: 1L, ACC: 1C, USAFE: 0D, AETC: OJ

j. OTHER PERTINENT DATA:

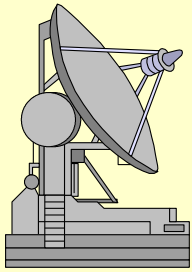
1. DR EXHIBIT HOLDING ACTIVITY: _____

2. PERTINENT DATA: _____

3. PHOTOGRAPHIC SUPPLIES: _____

k. COGNIZANT OFFICIAL: Your Name & Number as Screening Official

l. CERTIFYING OFFICIAL: Name & Number of person inputting DR into system



5985-01-411-1280 FSN, PART NO. AND ITEM DESCRIPTION 3008970-101		SUSPENDED TAG - MATERIEL	
		NEXT INSPECTION DUE	CONDITION CODE Q
		INSPECTION ACTIVITY 31 CCS/CYWW	
		REASON OR AUTHORITY Applicable NRTS code	
SERIAL NO. 001	UNIT OF MEASURE EA	From WUC Manual	
CONTRACT OR PURCHASE ORDER NO.	QUANTITY 01	INSPECTOR'S NAME OR STAMP AND DATE SSgt Doe, 21 Jan 98	
REMARKS NO APT RECEIVE			

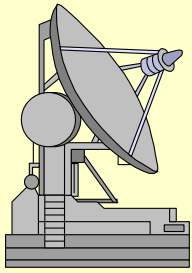
WARNING: Unauthorized persons removing, defacing, or destroying this tag may be subject to a fine of not more than \$1,000 or imprisonment for not more than one year or both. (18 USC 1361)

DD FORM 1575, 1 OCT. 66

Also

Also, in addition to the QDR paperwork we just accomplished, we must fill out a DD Form 1575 (Brown Tag) and attach it to the part you are turning in.

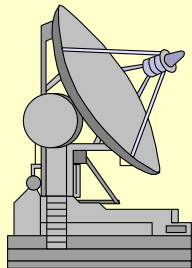
NOTE: Condition Code is Q for QDR.



SUPPLY TURN-IN PROCEDURES



- Reparable items must be turned in to base supply or Army counterpart
- The following forms must be filled out and turned in with item
 - AFTO 350
 - DD-1577 XX Condition Tag



AFTO 350 (FRONT)

AFTO FORM 350
JAN 93

**PREVIOUS EDITION
WILL BE USED**
OMB NO. 0704-0188

REPARABLE ITEM PROCESSING TAG

Public reporting burden for this collection of information is estimated to average 10 minutes per response, including the time for reviewing instructions, searching existing data source, gathering and maintaining the data needed, completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington DC 20503. PLEASE DO NOT RETURN your form/questionnaire to either of these addresses. Send your completed form/questionnaire to: Prime Weapon System/End Item ALC Material Utilization and Control Office (MUOC).

1. JOB CONTROL NO. 80200001	2. ID/SERIAL NO. RF102	3. TM B	3A. SRD FAE	4. WHEN DISC C
5. HOW MAL 255	6. MDS	7. WORK UNIT CODE AAE00	8. ITEM OPER TIME	9. QTY 01
10. FSC 5820	11. PART/LOT NUMBER 3007632-101			
12. SERIAL NUMBER 001	13. SUPPLY DOCUMENT NUMBER X295WX80200014R			

14. DISCREPANCY
NOT RECEIVING RDS DATA

15. SHOP USE ONLY
SSGT DOE, 884-8143

15A. DMC/ACT ID	15B. SHOP ACTION TAKEN
-----------------	------------------------

TAG NO. **770384** AFTO 350 PT.1

16. SUPPLY DOCUMENT NUMBER
X295WX80200014R

17. WORK UNIT CODE
3007632-101

18. NSK
5820-01-411-5591

19. ACTION TAKEN P	20. QTY 01	21. RPC USE ONLY
------------------------------	----------------------	------------------

TAG NUMBER **770384** AFTO 350 PT.2

AFTO 350 (BACK)

WARNING
Unauthorized persons removing, defacing, or destroying this tag (or label) may be subject to a fine of not more than \$1,000 or imprisonment for not more than one year or both.
(18 USC 1361)

REPAIR CYCLE DATA

23. NSN 5820-01-411-5591	24. GRAN CODE
25. TRANSPORTATION CONTROL NUMBER	

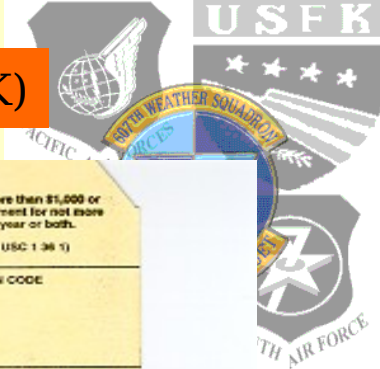
STATUS CHANGED TO

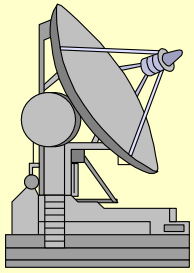
26. SERVICEABLE

27. CONDEMNED

28. SUPPLY INSPECTOR'S STAMP

BASE REPAIR CYCLE DATA		YR	JULIAN DATE	TIME
DATE REMOVED	REC'D BY RPC			AWM
TO:				
TO:				AWP
TO:				
TO:				
TO:				
DATE COMPLETED				

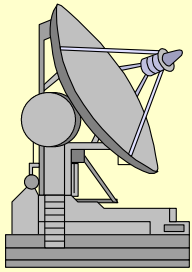




AFTO 350 PRACTICE EXERCISE



- Complete a practice AFTO 350 using student self paced scenario on slide 4-44
- Hold, answers on next screen



AFTO 350 (FRONT)

AFTO FORM 350
JAN 93

PREVIOUS EDITION
WILL BE USED

OMB NO. 0704-0188

REPARABLE ITEM **PROCESSING TAG**

Public reporting burden for this collection of information is estimated to average 10 minutes per response, including the time for reviewing instructions, searching existing data source, gathering and maintaining the data needed, completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington DC 20503. PLEASE DO NOT RETURN your form/questionnaire to either of these addresses. Send your completed form/questionnaire to: Prime Weapon System/End Item ALC Material Utilization and Control Office (MUOC).

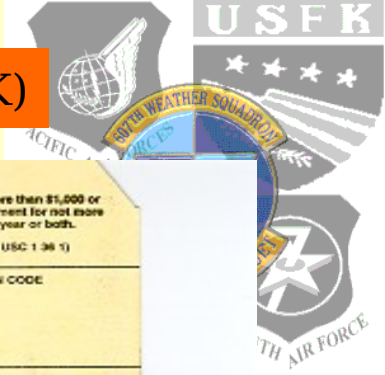
1. JOB CONTROL NO.	2. ID/SERIAL NO.	3. TM	3A. SRD	4. WHEN DISC
80240001	RF102	B	FAE	C
5. HOW MAL	6. MDS	7. WORK UNIT CODE	8. ITEM OPER TIME	9. QTY
255	AAC00			01
10. FSC	11. PART/LOT NUMBER			
5985	3008970-101			
12. SERIAL NUMBER	13. SUPPLY DOCUMENT NUMBER			
001	X295WX80240001R			
14. DISCREPANCY				
NOT RECEIVING APT DATA				
15. SHOP USE ONLY				
SSGT DOE, 884-8143				
15A. DMC/ACT ID		15B. SHOP ACTION TAKEN		
TAG NO.		770384		AFTO 350 PT.1
16. SUPPLY DOCUMENT NUMBER				
X295WX80240001R				
17. HOW/REMARKS				
APT ANTENNA				
18. WHEN DISC		18A. WORK UNIT CODE		
3008970-101		AAC00		
19. NSN				
5985-01-411-1280				
20. ACTION TAKEN	21. QTY	22. RPC USE ONLY		
P	01			
TAG NUMBER		770384		AFTO 350 PT.2

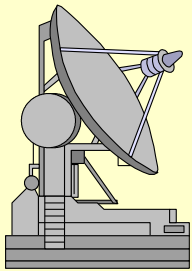
AFTO 350 (BACK)

WARNING
Unauthorized persons removing, defacing, or destroying this tag (or label) may be subject to a fine of not more than \$1,000 or imprisonment for not more than one year or both.
(18 USC 1361)

REPAIR CYCLE DATA

23. NSN	24. GRAN CODE			
5985-01-411-1280				
25. TRANSPORTATION CONTROL NUMBER				
STATUS CHANGED TO				
26. SERVICEABLE				
27. CONDEMNED				
28. SUPPLY INSPECTOR'S STAMP				
29. BASE REPAIR CYCLE DATA				
DATE REMOVED	REC'D BY RPC	YR	JULIAN DATE	TIME
TO:				AWM
TO:				AWP
TO:				
TO:				
TO:				
TO:				
DATE COMPLETED				



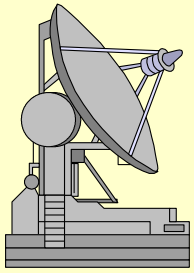


DD 1577-3 REPARABLE TAG



<p>WARNING: Unauthorized persons removing, defacing, or destroying this tag may be subject to a fine of not more than \$1,000 or imprisonment for not more than one year or both. (18 USC 1361)</p>	FSN, PART NO. AND ITEM DESCRIPTION 5820-01-411-5591 3007632-101 DATA AQUITION SUBSYSTEM		UNSERVICEABLE (REPARABLE) TAG-MATERIEL	
			INSPECTION ACTIVITY 31 CCS/CYWW	CONDITION CODE F
	REASON FOR REPARABLE CONDITION NRTS 1			
	SERIAL NO./LOT NO. 001		UNIT OF ISSUE EA	REMOVED FROM AN/TMQ-43
CONTRACT OR PURCHASE ORDER NO.		QUANTITY 01	INSPECTOR'S NAME OR STAMP AND DATE SSGT DOE, 21 Jan 98	
REMARKS DATA AQUITION SUBSYSTEM BAD NO RDS RECEIVE				

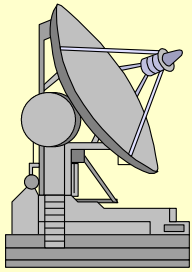
DD FORM 1577-2, 1 OCT 68



DD 1577-3 PRACTICE EXERCISE



- Complete practice DD 1577-3 using student self paced scenario on slide 4-44
- Hold, answers on next screen

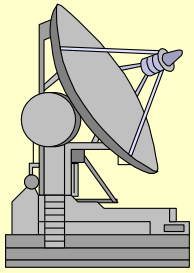


DD 1577-3 REPARABLE TAG STUDENT SELF-PACED



<p>WARNING: Unauthorized persons removing, defacing, or destroying this tag may be subject to a fine of not more than \$1,000 or imprisonment for not more than one year or both. (18 USC 1361)</p>	<p>FSN, PART NO. AND ITEM DESCRIPTION</p> <p>5985-01-411-1280 3008970-101 APT Antenna</p>		<p>UNSERVICABLE (REPARABLE) TAG-MATERIEL</p>	
			<p>INSPECTION ACTIVITY</p> <p>31 CCS/CYWW</p>	<p>CONDITION CODE</p> <p>F</p>
			<p>REASON FOR REPARABLE CONDITION</p> <p>NRTS 1</p>	
	<p>SERIAL NO./LOT NO.</p> <p>001</p>	<p>UNIT OF ISSUE</p> <p>EA</p>	<p>REMOVED FROM</p> <p>AN/TMQ-43</p>	
	<p>CONTRACT OR PURCHASE ORDER NO.</p>	<p>QUANTITY</p> <p>01</p>	<p>INSPECTOR'S NAME OR STAMP AND DATE</p> <p>SSGT DOE, 25 Jan 98</p>	
<p>REMARKS</p> <p>APT Antenna BAD NO APT RECEIVE</p>				

DD FORM 1577-2, 1 OCT 68

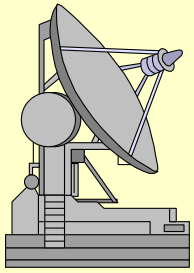


LESSON 4.4 REVIEW



■ This lesson covered:

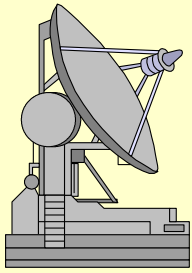
- Use and Purpose of AFTO Form 95
- Electronic Set Inventory Checklist
- Maintenance Data Documentation
- AFTO Form 349
- Use of Illustrated Parts Breakdown
- Supply Requisition Procedures
 - ⇒ AF Form 2005
- Deficiency Reports & DD Form 1575
- Supply Turn-In Procedures
 - ⇒ AFTO Form 350
 - ⇒ DD Form 1577-2 or DD Form 1577-3



LESSON PLAN 4.5



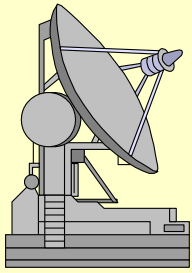
STT PREVENTIVE MAINTENANCE INSPECTIONS



LESSON 4.5 OVERVIEW



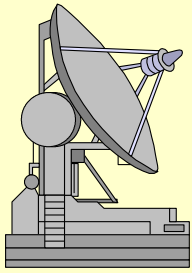
- This lesson topic will cover Preventative Maintenance on the STT:
 - Workstation
 - DAS
 - Printer
 - Monitor



WORK STATION PMIs



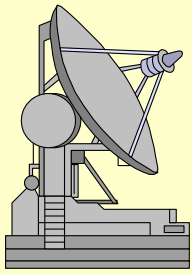
- Scheduled/Periodic Inspections/Maintenance
 - Workstation Air Filters - 4, 2 on each side panel
 - » Frequency of Performance -
 - » 180 days in a controlled, indoor/air conditioned environment.
 - » 30 days in normal outdoor environment.
 - » 7 days in a desert/dust environment.
 - » Special Inspections/Maintenance
 - Workstation Battery Backup System
 - » Frequency of Performance - after 6 months in storage
- On-condition Inspections/Maintenance
 - Display Screen Cleaning
 - » Frequency of Performance - As necessary



DAS PMIs



- Scheduled/Periodic Inspections/Maintenance
 - DAS Filters - 2
 - Frequency of Performance -
 - »180 days in a controlled, indoor/air conditioned environment.
 - »30 days in a normal outdoor environment.
 - »7 days in a desert/dust environment.
 - DAT Drive Cleaning
 - Frequency of Performance - Every 60 days
- On-condition Inspections/Maintenance
 - DAT Drive Cleaning
 - »Frequency of Performance - As necessary

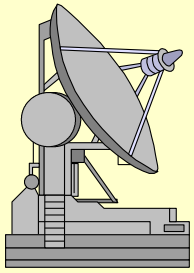


PRINTER PMIs



■ Preventive Maintenance

- Visual Inspection as required.
- Clean and Service Printer
- Frequency of Performance - After each roll of paper
- Printer Head and Darkness Adjustment (Work Card 2-004). Frequency of Performance - As necessary

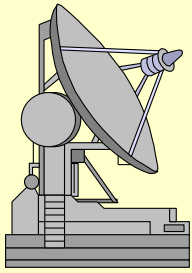


MONITOR PMIs



- Preventive Maintenance
 - » Visual Inspection as required.
 - » Display Screen Cleaning

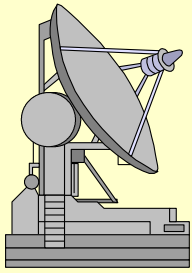
- On-condition Inspections/Maintenance
 - Display Screen Cleaning
 - » Frequency of Performance - As necessary



LESSON 4.5 REVIEW



- This lesson topic has covered STT PMIs on the:
 - Workstation
 - DAS
 - Printer
 - Monitor

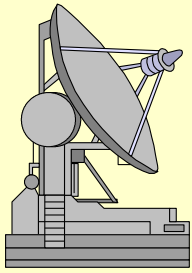


LESSON 4.6 LOGISTICS PRACTICAL EXERCISES



- Using instructor fault isolation scenario's & injected faults the student will be perform:
 - Fault detection
 - Fault Isolation
 - Completing MDC
 - Ordering Parts/supply documentation
 - Removing failed components
 - Replacement of failed component

- Complete Fault Isolation Scenario's



MODULE 4 REVIEW



- During this module we covered:
 - STT Maintenance Concepts
 - HW/SW data flow
 - Use of systems manuals
 - Fault detection and fault isolation
 - PMIs
 - Completing Support Documentation
 - Practical demonstration
- Questions?